

REMARKS

Applicant has reviewed the Office Action mailed on May 6, 2004 as well as the art cited. Claims 1-39 are pending in this application.

Claim Objections

Claim 18 was objected to because of the following:

Claim 18 depends from itself. It was assumed that it depends from claim 17.

Appropriate correction is required.

Claim 18 has been amended to reflect the change suggested by the Examiner.

Rejections Under 35 U.S.C. § 112

Claims 14-18 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

Claims 14-18 and 35 have been currently amended to overcome the rejection under 35 USC § 112, second paragraph and are in condition to be allowable at this time.

Claim 17 has been rewritten to overcome the rejection(s) under 35 USC § 112 set forth in the Office Action.

Rejections Under 35 U.S.C. § 102

Claims 14-16, 18, 19 and 35-37 were rejected under 35 USC § 102(e) as being anticipated by Uphadya et al., (U.S. Patent No. 5,949,755). Applicant respectfully traverses this rejection.

Claim 14

Regarding claim 14, the Examiner asserts that Uphadya discloses that if a failure occurs at the working ring, the network controller directs the switch to egress the ATM cells to the protection ring as shown in Fig. 7, (column 7, lines 9-56). The Examiner further asserts that

Uphadya discloses if HEC SYNC is restored, the CPU 200 directs the data path multiplexer to switch the VCs so that the node receives ATM cells from the working ring. See column 6, lines 60-67 and column 7, lines 1-18.

Claim 14 as amended is directed towards to a method for protection switching in a ring network having first and second routes for transporting cells using virtual connections. The method includes:

- tracking a status of the first and second routes for each virtual connection in the ring network;
- when a virtual connection changes to at least one of several signal conditions, switching to the protection route for that virtual connection; and
- when the virtual connection changes to at least one other than the at least one of several signal conditions, staying with the working route.

Uphadya does not teach or suggest the method of claim 14. In particular, Uphadya does not teach “when a virtual connection changes to at least one of several signal conditions, switching to the protection route for that virtual connection.” Furthermore, Uphadya does not teach or suggest “when the virtual connection changes to at least one other than the at least one of several signal conditions, staying with the working route.”

Accordingly, since not all aspects of the claimed invention are taught by the Uphadya reference the Applicant respectfully requests the withdrawal of the rejection of Claim 14 under 35 U.S.C. § 102(e).

Moreover, since Claim 15-18 depend from and further define patentably distinct Claim 14, Applicant respectfully requests the withdrawal of the rejections to Claims 15-18. Since, Applicant believes that Claims 15-18 are allowable for the aforementioned reasons, no further arguments may have been put forth to address any other rejections directed to those claims. Applicant, however, retains the right to respond to said rejection if a further response is required.

Claim 15

Regarding claim 15, the Examiner asserts that Uphadya discloses, in Fig. 6 and 9, identifying a set of virtual connections by a network element that detected the error to determine a set of virtual connections that are affected by the detected error, and tracking a state of the first and second routes for each virtual connection.

Uphadya does not teach the method of claim 15. In particular, Uphadya does not teach or suggest “monitoring cells injected in a virtual connection due to at least one of signal failure, and signal degradation,” as is disclosed and claimed in Claim 15 of the present application. Uphadya does not teach signal conditions such as signal failure and signal degradation. As a result claim 15 is not anticipated by Uphadya and should be allowed.

Claim 18

Regarding claim 18, the Examiner asserts that Uphadya shows in column 7, lines 19-29 a fiber cut that is monitored for protection switching of virtual connections. Uphadya does not teach the method of claim 18. In particular, Uphadya does not teach “selecting the at least one selected condition comprises selecting at least one of signal degradation, signal loss, and ring fault,” as is disclosed and claimed in claim 18 of the present application. As a result, claim 18 is not anticipated by Uphadya and should be allowed.

Claim 19

With respect to claim 19, the Examiner asserts that Uphadya discloses, a working ring 110, a protection ring 120 for ATM cells transport, and a plurality of nodes A through D, each node repeatedly performs header error check synchronization (HEC SYNC) to determine whether there has been a loss of HEC SYNC.

Claim 19 as amended is directed towards to a method for protection switching in a ring network having first and second routes for transporting cells using virtual connections.

The method includes:

- selecting at least one of several signal conditions to trigger protection switching;
- tracking a condition of the first and second routes for each virtual connection in the ring network;

- when a condition of a virtual connection changes to at least one of several selectable signal conditions, switching to the protection route for that virtual connection;
- and

- when a condition of a virtual connection changes to a condition other than the at least one of several selectable signal conditions, staying with the working route.

Uphadya does not teach the method of claim 19. In particular, Uphadya does not teach “selecting at least one of several signal conditions to trigger protection switching.” Furthermore, Uphadya does not teach “when a condition of a virtual connection changes to at least one of several selectable signal conditions, switching to the protection route for that virtual connection.”

Accordingly, since not all aspects of the claimed invention are taught by the Uphadya reference the Applicant respectfully requests the withdrawal of the rejection of Claim 19 under 35 U.S.C. § 102(e).

Claim 35

With regard to claim 35, the Examiner asserts that Uphadya discloses that if a failure occurs at the working ring, the network controller directs the switch to egress the ATM cells to the protection ring.

Claim 35 as amended is directed towards to a method for protection switching in a ring network having first and second routes for transporting cells using virtual connections.

The method includes:

- tracking a condition of the first and second routes for each virtual connection in the ring network;
- when a condition of a virtual connection changes at least one of several selectable signal conditions, switching to the protection route for that virtual connection; and
- when the condition of the working route returns to an acceptable level, returning to the working route for the virtual connection.

Applicant finds that Uphadya does not teach the method of claim 35. In particular, Uphadya does not teach “when a condition of a virtual connection changes at least one of several selectable signal conditions, switching to the protection route for that virtual connection.”

Accordingly, since not all aspects of the claimed invention are taught by the Uphadya reference the Applicant respectfully requests the withdrawal of the rejection of Claim 35 under 35 U.S.C. § 102(e).

Moreover, since Claim 36 and 37 depend from and further define patentably distinct Claim 35, Applicant respectfully requests the withdrawal of the rejections to Claims 36 and 37. Since, Applicant believes that Claims 36 and 37 are allowable for the aforementioned reasons, no

Serial No.: 09/696,462

Filing Date: October 25, 2000

Attorney Docket No. 100.134US01

Title: PROTECTION SWITCHING OF VIRTUAL CONNECTIONS AT THE DATA LINK LAYER

further arguments have been put forth to address any other rejections directed to those claims. Applicant, however, retains the right to respond to said rejection if a further response is required.

Allowable Subject Matter

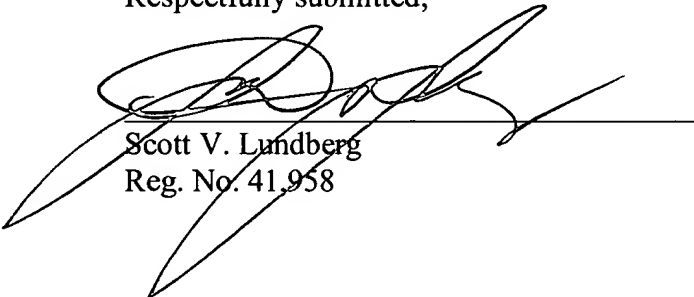
Applicant thanks the Examiner for the indication that Claims 1-13, 20-34 and 38-39 are allowed.

CONCLUSION

Applicant respectfully submits that claims 1-39 are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 332-4720.

Respectfully submitted,

Date: 8-5-4

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Attachments

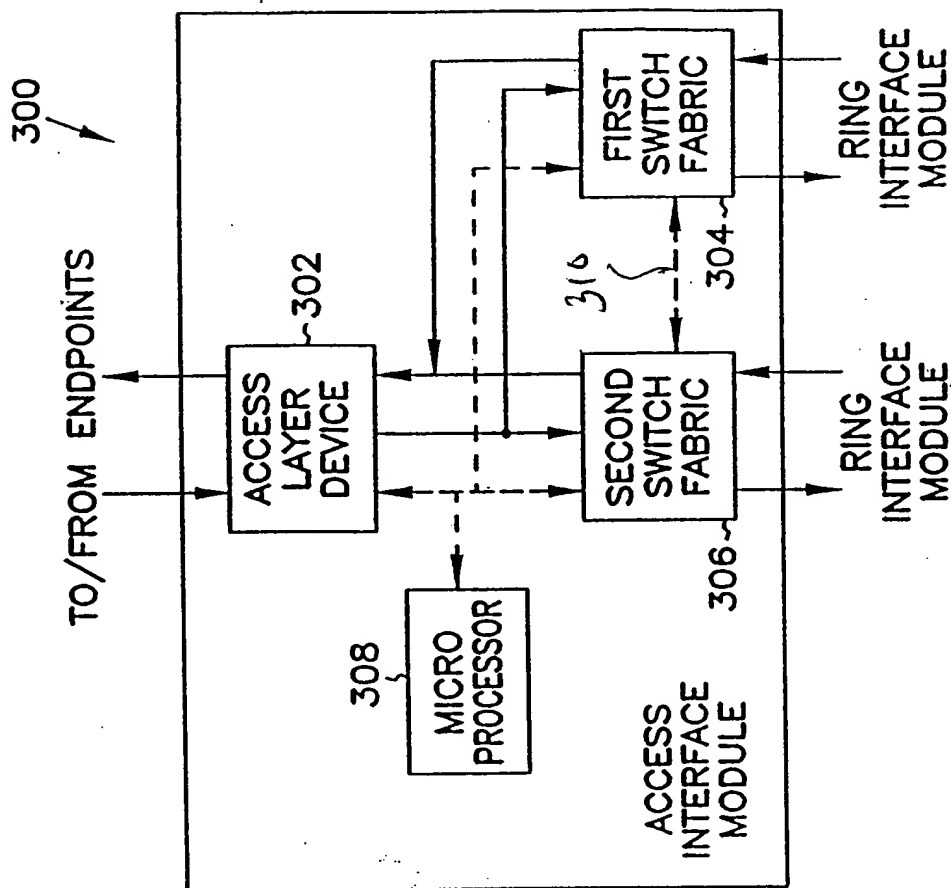
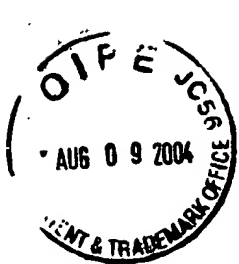


FIG. 3

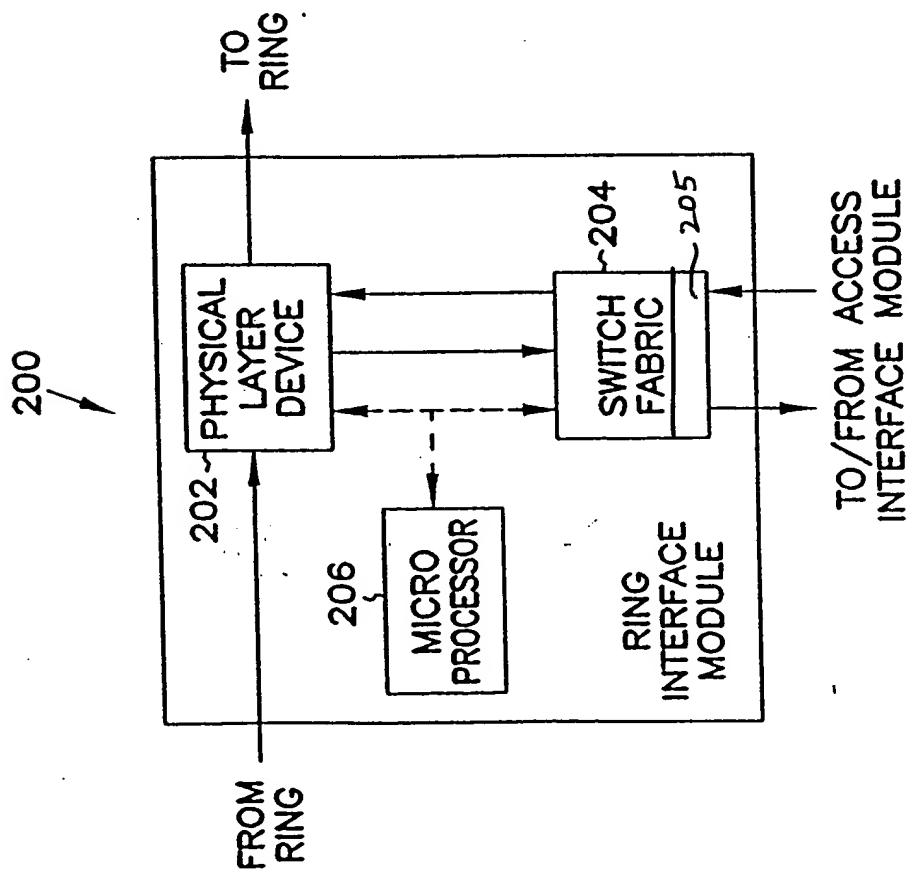


FIG. 2

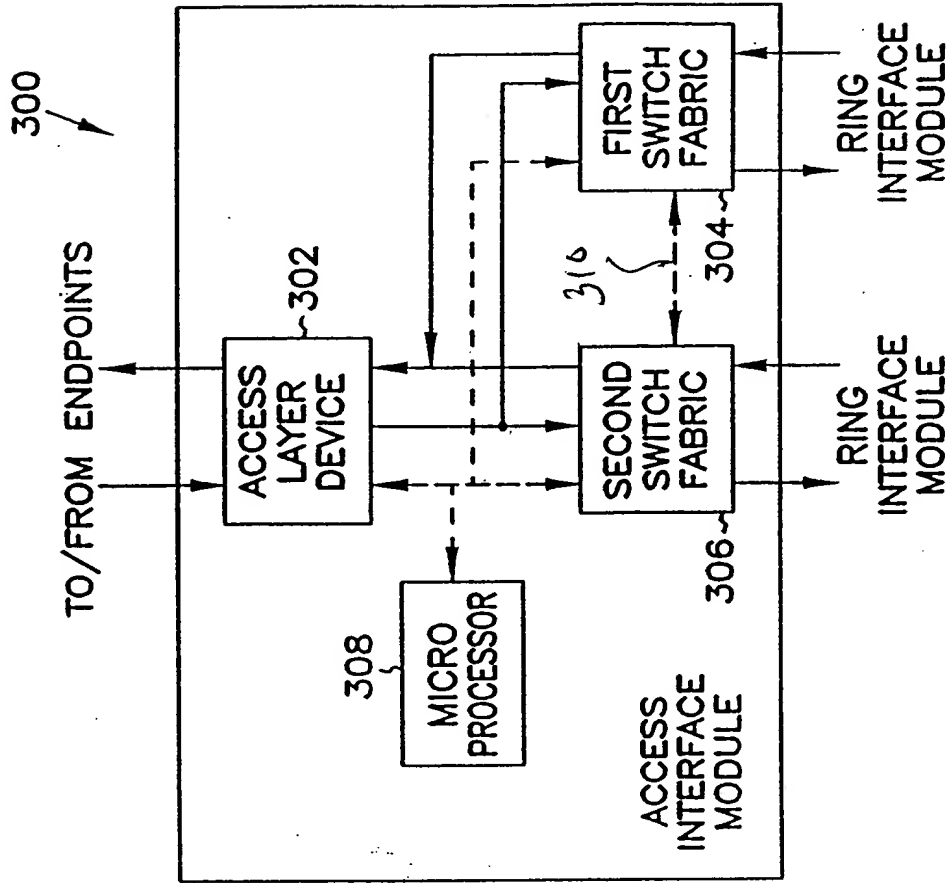
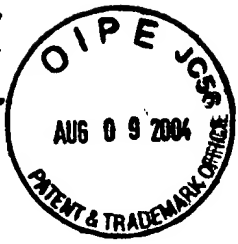


FIG. 3

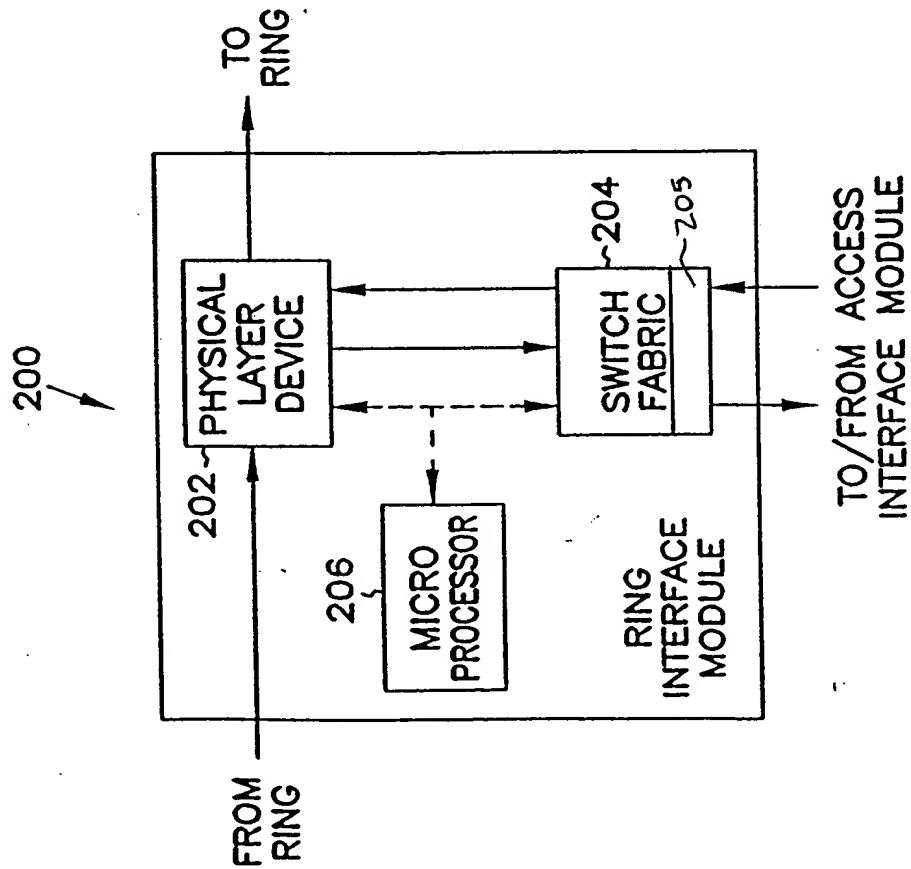


FIG. 2